CSE-316 Microcontroller Project

Super Mario Game

Group No. : 42

Group members:

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Description:

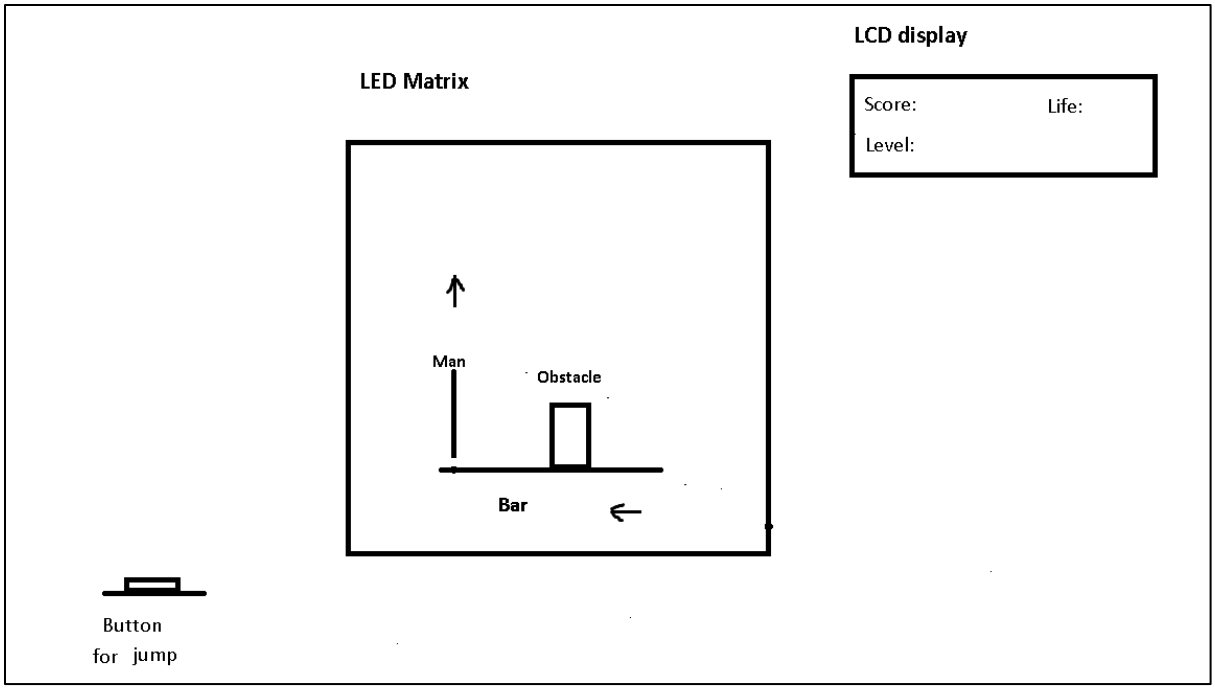
We have created a game inspired from Classic Super Mario Bros. As our game is simulation based, we have implement this using ***Atmel Studio*** & ***Proteus***. In this game, the man try to protect himself from obstacles through jump. We have used here two 8*8 green LED matrix for gaming display, one 16*2 LCD display for showing score-life-level and one button for jumping feature.

Required Components:

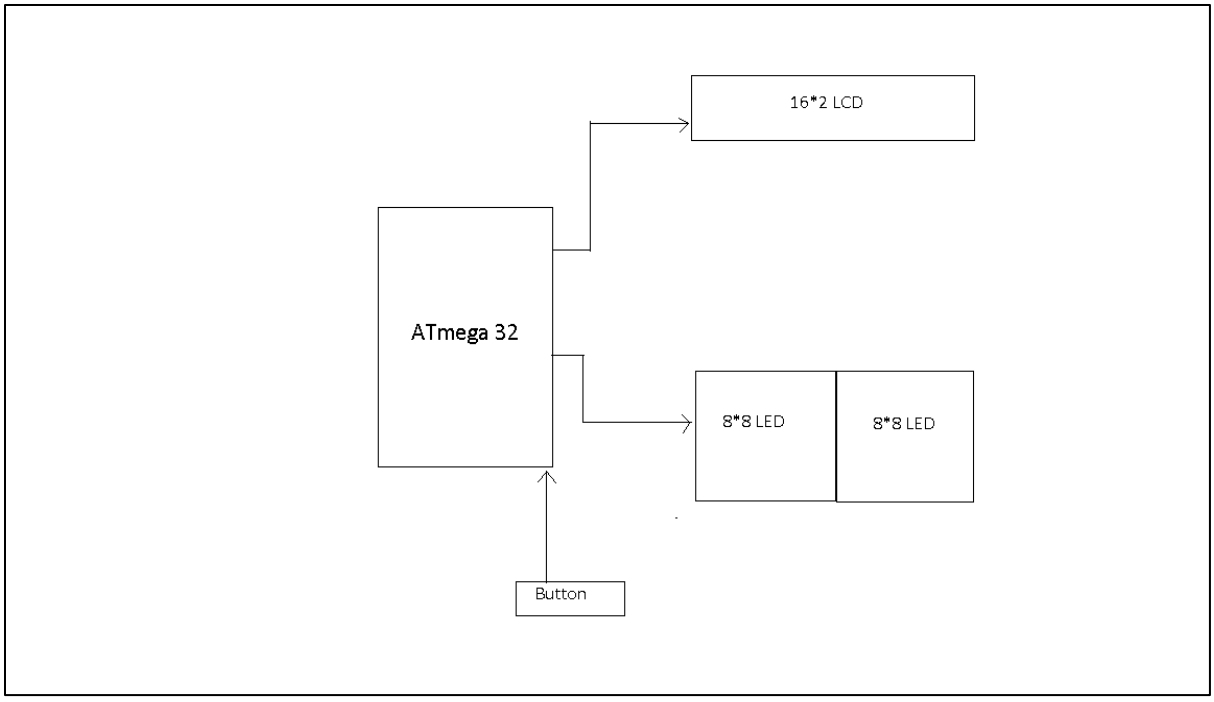
- ATmega 32 microcontroller
- 8*8 green LED matrix
- 16*2 LCD display
- Button
- Resistor

Game procedure:

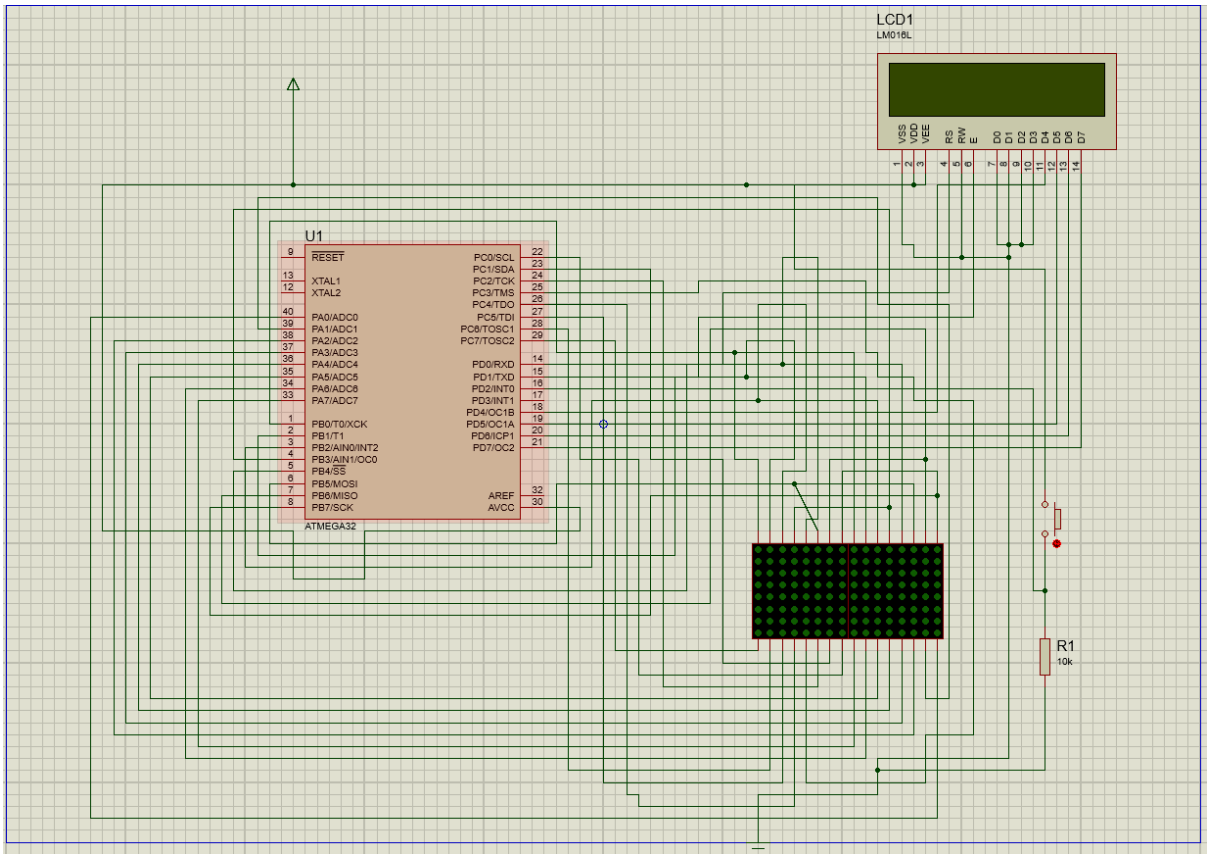
Randomly several bars containing obstacles will be continuously moving towards left and will try to hit the man. On the otherhand, the man will try to save himself by jumping upwards. However, if the man doesn't jump, he will automatically fall downwards continuously. The game will restart if the he has any life left.



Block Diagram:



Detailed Pin Diagram:



Problems faced:

In our project, we was in trouble while multiplexing two LED matrix. One way to recover it is to use decoder. But, we have implemented it using a different technique. We have used same port for the upper side of both LED's and two different port for the lower sides of them.

As we have done our project in software, we faced some unavoidable problems. LED matrix was blinking little bit and we didn't find any way to fix it. In Hardware, we might do it nicely. Besides, if we could use Bi-color LED matrix, the game display would be more beautiful. But, unfortunately, there is no way to import Bi-color matrix in Proteus.